

Infrastructure Interdependencies Tabletop Exercise: Summary of Key Issues and Actions to Date



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May 2001



Infrastructure Interdependencies
Tabletop Exercise

BLACK ICE Exercise Summary

● Background

- Key awareness-building mechanism for Regional CIP Preparedness Program/ Implementation Plan
- Focused on Salt Lake City 2002 Winter Olympics
- Co-sponsored by the Utah Department of Public Safety's Division of Comprehensive Emergency Management, the U.S. Department of Energy's Office of Critical Infrastructure Protection, and the Utah Olympic Public Safety Command
- Collaborative effort by regional gas, electric, telecommunication companies; other stakeholders
- Means to develop prioritized mitigation measures (Action Plan)

● Participation

- Approximately 225 players and observers participated (auditorium was filled to capacity!)



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BLACK ICE Exercise Summary (Cont'd)

- **Participation (cont'd)**

- More than 65 organizations were represented
 - * Public and private-sector infrastructure service providers
 - * Emergency management, medical, mass care, and law enforcement personnel
 - * Local, county, state, federal, and Olympic officials
- Players were actively engaged—comments were candid and forthcoming

- **Initial feedback on exercise**

- Inspired stakeholder optimism, generated enthusiasm, and facilitated networking
- Increased awareness of infrastructure vulnerabilities and interdependencies
- Identified important infrastructure service restoration challenges and issues



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BLACK ICE Exercise Summary (Cont'd)

- **Initial feedback (cont'd)**

- Surfaced issues regarding roles, responsibilities, and authorities for responding to and recovering from infrastructure disruptions
- Provided a catalyst for moving forward on an action plan
- Focused attention on what needs to be done to develop a “disaster resistant Olympics”





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Achieving a “Disaster Resistant Olympics” Requires Tackling Key Issues

- **Interdependencies**
- **Coordination**
- **Communications**
- **Resource Allocation**



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Interdependencies Issues

- **Need to better understand what interdependencies really are, and their importance to the operation of the infrastructures**
 - Normal operations
 - Disruptions
 - Repair and restoration (for example, implications of increased outage duration times)
- **Need to expand dialog and close interaction among infrastructure service providers about their interdependencies**
- **Need to understand the dependence of community and venue facilities on the interdependent infrastructures**
- **Need to identify and understand Supervisory Control and Data Acquisition (SCADA) system vulnerabilities and interdependencies**



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Coordination Issues

- **Need to ensure close and continuing coordination (local, county, state, federal, private, Olympic)**
- **Need to establish procedures for coordinating and communicating disruption information (extent and duration)**
- **Need to harmonize conflicting emergency response procedures among stakeholder plans**
- **Need to establish procedures for coordinating and prioritizing service restoration**
- **Need to determine “who’s in charge” as problems worsen and situations change**
- **Need to coordinate public and media relations (“speak with one voice”)**



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Communications Issues

- **Need to ensure that there is an effective regional communications mechanism among all stakeholders**
- **Need to identify and test primary and backup communication systems for normal operation, disruption, and restoration situations**
- **Need to develop plans to effectively work around system overloads (congestion) and disruptions**
 - Public switched networks
 - Cell networks
 - Private and government communication networks
- **Need to establish procedures for user access priorities during disruption and restoration situations**



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Resource Allocation Issues

- **Need to coordinate staffing for Olympic operations and emergency response**
- **Need to identify how to establish priorities and allocate resources during infrastructure disruptions**
- **Need to identify the logistical difficulties of getting the “right people” to the “right locations” during infrastructure disruptions (for example, repair crews to sites, personnel to emergency operations centers)**



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Development of Action Plan

- **Task groups established to recommend actions to address shortfalls in all four areas**
- **Task groups comprised of volunteer stakeholders**
- **Recommendations integrated into Action Plan**
- **Task and Milestone schedule developed (May '01) to cover nine months leading to Olympics**



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Action Plan

Objectives:

- **Achieve, to the greatest extent possible given time and resource constraints, the goal of a “disaster resistant Olympics”**
- **Move forward with the Critical Infrastructure Protection Implementation Plan***
- **Address issues identified, and build on insights gained, during BLACK ICE Exercise**

**Critical Infrastructure Protection Implementation Plan for 2002 Winter Olympic Games, August 14, 2000*



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Action Plan

Interdependencies—Actions to Date

- **Conducting vulnerability assessments and analyzing interdependencies**
(What are they? What do they impact? What are the consequences?)
 - Selected physical and cyber vulnerability assessments under way
 - Identifying and analyzing infrastructure interdependencies (template developed)
 - Assessing options for data bases, stakeholders access to information
 - Evaluating protection and mitigation measures for implementation
- **Identifying critical community and venue facilities and their dependencies on infrastructures**
 - Development and application of guidelines and criteria for identifying critical facilities
 - Evaluating protection and mitigation measures for implementation
- **Planning follow-on interdependencies exercises—“Black Ice II”**
 - Focus on key utilities
 - More detailed analysis



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Action Plan

Coordination—Actions to Date

- **Reviewing existing emergency operations plans—state, county, and city**
 - Have identified shortfalls relative to critical infrastructure protection needs
 - Developing strategies to address shortfalls; harmonizing plans
- **Addressing disruption protocols**
 - Procedures for coordinating and communicating disruption information
 - Procedures for coordinating and prioritizing service restoration
 - A command and control “roadmap” (for identifying “who’s in charge” as problems worsen and situations change)
 - Strategy to coordinate public and media relations (“speak with one voice”)
- **Addressing recovery protocols**



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Action Plan

Communications—Actions to Date

- **Identifying stakeholder requirements, enhancing plans**
- **Identifying and testing primary and backup communication systems for normal operation, disruption, and restoration situations**
- **Developing plans to work around system overloads (congestion) and disruptions effectively**
- **Establishing procedures for user access priorities during disruption and restoration situations**



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Action Plan

Resource Allocation—Actions to Date

- **Developing mechanisms for coordinating staffing for Olympic operations and emergency response**
- **Defining procedures to establish priorities and allocate resources during infrastructure disruptions**
- **Developing procedures for getting the “right people” to the “right locations” during infrastructure disruptions**



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Action Plan—Next Steps

- **Work underway, but much remains to be done**
- **Lead and support organizations still need to be identified for certain activities**
- **Stakeholders must commit to meet schedules, milestones, and deliverables**
- **Need to identify sources of funding and expertise**
- **Post Olympics follow-on activities need to be incorporated into a longer-term implementation plan to help achieve goal of a “Disaster Resistant Utah”**



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Regional Infrastructure Assurance

--How to Create a “Disaster Resistant” State or Region

- **Establish stakeholder group; if possible, expand existing coordination mechanism**
 - **Should include all infrastructures, federal, state, local (e.g., police, fire) government, communities**
- **Exchange general information (hold briefings) on infrastructure operations, interdependencies, response/recovery plans**
- **Develop a regional infrastructure assurance implementation plan that includes:**
 - **An inventory of existing information and capabilities**
 - **A threat analysis**
 - **Infrastructure vulnerability assessments (physical, cyber, interdependencies)**



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Regional Infrastructure Assurance

--How to Create a “Disaster Resistant” State or Region (Cont’d)

- **Community vulnerability assessments**
- **Enhancement of response/recovery plans**
- **Training and exercises**
- **Identification of necessary databases, analytic tools, equipment**
- **Resources needed, and source of resources**
- **Hold infrastructure interdependency exercises to help develop the implementation plan, to identify key shortfalls, or to test protection, mitigation and response enhancements**
- **Develop a task and milestone schedule**
- **Identify “champions” for each task**
- **Get expert help as necessary**



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Regional Infrastructure Assurance

--How to Create a “Disaster Resistant” State or Region (Cont’d)

- **Seek and share information with other regions of the country**
- **Stakeholder group should monitor progress – it is THEIR plan**
- **Keep the implementation plan flexible and updated**